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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/844,662 | 04/27/2001 | Eva Raschke | 8325-0012 | 9004 |

20855 7590 06/16/2005

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EXAMINER

WAX, ROBERT A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1653

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/844,662 | RASCHKE ET AL. | |
| | Examiner | Art Unit | |
| | Robert A. Wax | 1653 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-18, 20-24, 27 and 57-86 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 6-18, 20-24, 27, 58, 59, 61 and 72-86 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 57, 60 and 62-71 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. The previous rejections based on Aoki et al. are hereby withdrawn in view of applicants' arguments submitted April 13, 2005. Applicants correctly point out that Aoki et al. do not teach an exogenous molecule and, therefore, cannot anticipate the claims nor provide the basis for a holding of obviousness. Examiner agrees that Aoki et al. do not provide any information on whether RP58 is binding to a nucleic acid sequence but does not necessarily agree that this shows that the RP58 is binding to protein. In any event, applicants are directed to the new grounds of rejection below relying on Cox, III et al.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 57, 62-68, 70 and 71 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Cox, III et al.

Cox, III et al., in Example VI, "demonstrate that a designed ZFP can repress expression of an endogenous cellular gene that is in its natural context and chromatin structure. Specifically, effector plasmids expressing VEGF ZFPs fused to the KRAB repression domain were introduced into cells and were shown to down-regulate the

VEGF gene.” See column 51, lines 40-45. The fact that they down-regulated the VEGF gene means that the ZFPs were bound to the DNA and formed the complex claimed in the instant claims. Thus, the above claims are clearly anticipated.

Claim Rejections - 35 USC § 103

4. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox, III et al. in view of Greisman et al. and Neely et al.

The teachings of Cox, III et al. are outlined above.

Greisman et al. teach a strategy for selecting high-affinity zinc finger proteins for diverse DNA target sites.

Neely et al. teach that zinc finger 4 of Transcription Factor IIIA binds in the minor groove.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the protein of Neely et al. using the method of Greisman et al. and expect to achieve the protein/chromatin complex of Cox, III et al.

5. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox, III et al. in view of Greisman et al. and Gross et al.

The teachings of the Cox, III et al. and Greisman et al. are outlined above.

Gross et al. teach of nuclease hypersensitive sites in chromatin and their uses.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select a nuclease hypersensitive site according to the teachings

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of Gross et al., for the reasons noted therein, and select a zinc finger protein that binds thereto, according to the teachings of Greisman et al. in order to create a protein/chromatin complex as taught by Cox, III et al. with the expectation of achieving protection against nuclease cleavage of the DNA.

6. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cox, III et al. in view of Greisman et al.

The teachings of Cox, III et al. are outlined above.

Greisman et al., as stated above, teach a strategy for selecting high-affinity zinc finger proteins for diverse DNA target sites. Additionally, at column 7, lines 29-30, they state that the zinc finger proteins provide "means for developing plants with altered phenotypes . . ."

It would have been obvious to one of ordinary skill in the art at the time the invention was made to complex a zinc finger protein with the chromatin in a plant cell in view of the conventionality of doing so taught by Greisman et al.

Conclusion

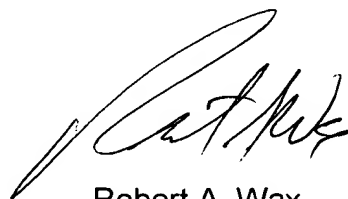
7. No claim is allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Wax whose telephone number is (571) 272-

0623. The examiner can normally be reached on Monday through Friday, between 9:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon P. Weber can be reached on (571) 272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Robert A. Wax', is positioned above the printed name and title.

Robert A. Wax
Primary Examiner
Art Unit 1653

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